PTO/SB/08A (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	1	of	14

Complete if Known	
Application Number	10/759,985
Filing Date	January 16, 2004
First Named Inventor	Schinazi *et al.*
Group Art Unit	1623
Examiner	Crane, Lawrence E.
Attorney Docket Number	18085.105326 EMU 133 CON 5

4742181_1.DOC

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. [1]	U.S. Patent Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pgs, Clmns, Lns, Where Relevant Passages/Relevant Figs Appear
	AA	3,116,282	A	Hunter	12-31-1963	
	AB	3,553,192	A	Gauri	01-05-1971	
	AC	3,817,982	A	Verheyden et al.	06-18-1974	
	AD	4,000,137	A	Dvonch et al.	12-28-1976	
	AE	4,336,381	A	Nagata et al.	06-22-1982	
	AF	4,788,181	A	Driscoll et al.	11-29-1988	
	AG	4,861,759	A	Hiroaki et al.	09-05-1989	
	AH	4,879,277	A	Mitsuya et al	11-07-1989	
	AI	4,900,828	A	Belica et al	11-07-1989	
	AJ	4,916,122	A	Chu et al.	02-13-1999	
	AK	4,963,533	A	de Clercq et al.	04-10-1990	
	AL	4,963,662	A	Matthes et al.	10-16-1990	
	AM	4,968,674	A	Taniyama et al.	10-16-1990	
	AN	5,011,774	A	Farina et al	11-06-1990	
	AO	5,041,449	A	Belleau et al	04-30-1991	
	AP	5,047,407	A	Belleau et al	08-20-1991	
	AQ	5,059,690	A	Zahler et al.	09-10-1991	
	AR	5,071,983	A	Koszalka et al.	10-22-1991	
	AS	5,089,500	A	Daluge	02-18-1992	
	AT	5,151,426	A	Belleau et al	09-29-1992	
	AU	5,179,104	A	Chu et al.	01-12-1993	
	AV	5,185,437	A	Koszalka et al.	02-09-1993	
	AW	5,204,466	A	Liotta et al.	04-20-1993	
	AX	5,210,085	A	Liotta et al.	05-11-1993	
	AY	5,215,971	A	Datema et al.	06-01-1993	
	AZ	5,233,041	A	Bray et al.	08-03-1993	
	AAA	5,234,913	A	Furman, Jr. et al.	08-10-1993	
	AAB	5,241,069	A	Vince et al.	08-31-1993	
	AAC	5,246,924	A	Fox et al.	09-21-1993	
	AAD	5,248,776	A	Chu et al.	09-28-1993	
	AAE	5,270,315	A	Belleau et al.	12-14-1993	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet	2	of	14

Complete if Known	
Application Number	**10/759,985**
Filing Date	**January 16, 2004**
First Named Inventor	**Schinazi *et al.***
Group Art Unit	**1623**
Examiner Name	**Crane, Lawrence E.**
Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. [1]	U.S. Patent Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pgs, Clmns, Lns, Where Relevant Passages/Relevant Figs Appear
	BA	5,276,151	A	Liotta et al.	01-04-1994	
	BB	5,329,008	A	Partridge et al.	07-12-1994	
	BC	5,409,906	A	Datema et al.	04-25-1995	
	BD	5,432,165	A	Adair et al.	07-11-1995	
	BE	5,444,063	A	Schinazi et al.	08-22-1995	
	BF	5,446,029	A	Eriksson et al.	08-29-1995	
	BG	5,466,806	A	Belleau et al.	11-14-1995	
	BH	5,496,935	A	Matthes et al.	03-05-1996	
	BI	5,521,161	A	Malley et al.	05-28-1996	
	BJ	5,561,120	A	Lin et al.	10-01-1996	
	BK	5,567,688	A	Chu et al.	10-22-1996	
	BL	5,604,209	A	Ubasawa et al.	02-18-1997	
	BM	5,627,160	A	Lin et al.	05-06-1997	
	BN	5,631,239	A	Lin et al.	05-20-1997	
	BO	5,703,058	A	Schinazi et al.	12-30-1997	
	BP	5,756,478	A	Cheng et al.	05-26-1998	
	BQ	5,869,461	A	Cheng et al.	02-09-1999	
	BR	5,905,070	A	Schinazi et al.	05-18-1999	
	BS	6,232,300	B1	Schinazi et al.	05-15-2001	
	BT	6,348,587	B1	Schinazi et al.	02-19-2002	
	BU	6,391,859	B1	Schinazi et al.	05-21-2002	
	BV	2002/0198173	A1	Schinazi et al.	12-26-2002	
	BW	6,680,303	B2	Schinazi et al.	01-20-2004	

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. [1]	Foreign Patent Document Office [3]	Number	Kind Code [2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T [6]
	BX	DE	1 620 047		Merck	03-17-1970		
	BY	EP	0 206 497	B1	Wellcome Foundation LTD	07-20-1994		
	BZ	EP	0 217 580	A2	Wellcome Foundation LTD	04-08-1987		
	BAA	EP	0 285 884	A2	Bristol-Myers Company	10-12-1988		
	BAB	EP	0 337 713	B1	BioChem Pharma	10-18-1995		
	BAC	EP	0 352 248	A1	Medivir Aktieboiag	01-24-1990		

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet	3	of	14

Complete if Known	
Application Number	**10/759,985**
Filing Date	**January 16, 2004**
First Named Inventor	**Schinazi *et al.***
Group Art Unit	**1623**
Examiner Name	**Crane, Lawrence E.**
Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. [1]	Foreign Patent Document Office [3]	Number	Kind Code [2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T [6]
	CA	EP	0 375 329	A2	Wellcome Foundation LTD	06-27-1990		
	CB	EP	0 382 526	A2	IAF BioChem Int'l	08-16-1990		
	CC	EP	0 409 227	A2	Akad Wiss DDR	01-23-1991		
	CD	EP	0 433 898	A2	Abbott Laboratories	06-26-1991		
	CE	EP	0 494 119	A1	IAF BioChem Int'l	07-08-1992		
	CF	EP	0 515 144	A1	BioChem Pharma	11-25-1992		
	CG	EP	0 515 156	B1	BioChem Pharma	11-25-1992		
	CH	EP	0 515 157	B1	BioChem Pharma	09-03-1997		
	CI	EP	0 519 464	B1	Ajinimoto	12-23-1992		
	CJ	EP	0 526 253	A1	BioChem Pharma	02-03-1993		
	CK	JP	7-109221		Wellcome Foundation Ltd	04-25-1995		
	CL	NL	8,901,258		Stichting Rega	12-17-1990		y
	CM	WO	88/07532	A1	Holmes, et al.	10-06-1988		
	CN	WO	88/08001	A1	Aktiebolaget Astra	10-20-1988		
	CO	WO	90/12023	A1	Walker, et al.	10-18-1990		
	CP	WO	91/06554	A1	Nycomed	05-16-1991		
	CQ	WO	91/09124	A1	Biotech AU PTY. LTD	06-27-1991		
	CR	WO	91/11186	A1	Emory University	08-08-1991		
	CS	WO	91/16333	A1	Southern Res Inst	10-31-1991		
	CT	WO	91/17159	A1	IAF Biochem Int'l, Inc.	11-14-1991		
	CU	WO	91/19727	A1	Sloan Kettering Inst	12-26-1991		
	CV	WO	92/06102	A1	Medivir AB	04-16-1992		
	CW	WO	92/08727	A1	Consiglio Naz. Delle Ricerche	05-29-1992		
	CX	WO	92/10496	A1	UGA Research Found.	06-25-1992		
	CY	WO	92/10497	A1	UGA Res. Found.; Emory U.	06-25-1992		
	CZ	WO	92/14729	A1	Emory University	09-03-1992		
	CAA	WO	92/14743	A2	Emory University	09-03-1992		
	CAB	WO	92/15308	A1	Wellcome Foundation LTD	09-17-1992		
	CAC	WO	92/18517	A1	Yale University, et al.	10-29-1992		
	CAD	WO	92/21676	A1	Glaxo Group Limited	12-10-1992		
	CAE	WO	93/23021	A2	Wellcome Foundation LTD	11-25-1993		
	CAF	WO	94/09793	A1	Emory University	05-11-1994		
	CAG	WO	94/14456	A1	Biochem Pharma	07-07-1994		

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet	4	of	14

Complete if Known	
Application Number	**10/759,985**
Filing Date	**January 16, 2004**
First Named Inventor	**Schinazi *et al.***
Group Art Unit	**1623**
Examiner Name	**Crane, Lawrence E.**
Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. [1]	Foreign Patent Document: Office [3]	Number	Kind Code [2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T [6]
	DA	WO	94/14802	A1	Biochem Pharma	07-07-1994		
	DB	WO	94/14831	A1	University of Alberta	07-07-1994		
	DC	WO	94/27590	A1	Gov't of United States	12-08-1994		
	DD	WO	94/27616	A1	Yale University	12-08-1994		
	DE	WO	95/07086	A1	Emory University	03-16-1995		
	DF	WO	95/07287	A1	Ctr. Nat. de la Recherche Sci.	03-16-1995		
	DG	WO	95/18137	A1	Genta Incorporated	07-06-1995		
	DH	WO	95/20595	A1	UGA Research Found.	08-03-1995		
	DI	WO	95/21183	A1	Acid (Canada) Inc.	08-10-1995		
	DJ	WO	96/22778	A1	Emory University	08-01-1996		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T [6]
	DK	Database WPI, Week 8748, Derwent Publications Ltd., London, GB; AN 87-338135 for JP 62-242624 A to Asahi Glass 10-23-1987; [98-338135], Abstract.	
	DL	EPO Search Report for SN. 96 902772, July 26, 1999.	
	DM	ABOBO *et al.*, "Pharmacokinetics of 2', 3'-Dideoxy-5-fluoro-3'-thiacytidine in Rats," *J. Pharmaceutical Sciences*, 83(1), 96-99 (January 1994).	
	DN	Van AERSCHOT *et al.*, "3'-Fluoro-2',c'-dideoxy-5-chlorouridine: Most Selective Anti-HIV-1 Agent among a Series of New 2'- and 3'-Fluorinated 2',3'-Fluorinated 2',3'-Dideoxynucleoside Analogs," *J. Med. Chem.*, 32(8)1743-1749 (1989).	
	DO	Van AERSCHOT *et al.*, "Synthesis and Anti-HIV Evaluation of 2',3'-Dideoxy-5-chloropyrimidine Analogues: Reduced Toxicity of 5-Chlorinated 2', 3'-Dideoxynucleosides", *J. Med. Chem.*, 33(6), 1833-1839 (1990).	
	DP	AGROFOGLIO *et al.*,"Synthesis of Carbocyclic Nucleosides,"*Tetrahedron*,50(36):10611-10670 (1994).	
	DQ	AJMERA, S., *et al.*, "Synthesis and Biological Activity of 5-Fluoro-2',3'-Dideoxy-3'-fluorouridine and its 5'-phosphate," *J. Med. Chem.*, 27(1): 11-14 (1984).	
	DR	ASSELINE *et al.*, "Synthesis and physiochemical properties of oligonucleotides built with either .alpha.-L or .beta.-L nucleotides units and covalently linked to an acridine derivative," *Nucl. Acids Res.*, 19(15):4067-4074 (1991).	
	DS	BALZARINI *et al.*, "2',3'-Didehydro-2',3'-dideoxy-5-chlorocytidine Is A Selective Anti-Retrovirus Agent," Biochem. Biophys. Res. Comm., 164(3), 1190-1197 (November 15, 1989).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	**10/759,985**
				Filing Date	**January 16, 2004**
				First Named Inventor	**Schinazi *et al.***
				Group Art Unit	**1623**
				Examiner Name	**Crane, Lawrence E.**
Sheet	5	of	14	Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	EA	BALZARINI *et al.*, "5-Chloro-substituted Derivatives of 2', 3'-Didehydro-2', 3'-dideoxyuridine, 3-Fluoro-2', 3'-dideoxyuridine and 3'-Azido-2', 3'-dideoxyuridine as Anti-HIV Agents," *Biochem. Pharmacology*, 38(6), 869-874 (1989).	
	EB	BALZARINI, J., *et al.*, "Potent and Selective Anti-HTLV-III/LAV Activity of 2',3'-Dideoxycytidinene, the 2',3'-Unsaturated Derivative of 2',3'-Dideoxycytidine," *Biochemical and Biophysical Research Communications*, 140(2):735-742 (1986).	
	EC	BEACH, J. W., *et al.*, "Synthesis of Enantiomerically Pure (2'R,5'S)-(1)-[2-hydroxymethyl)-oxatiolan-5-yl] Cytosine as a Potent Antiviral Agent Against Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV)," *J. Org. Chem.*, 57:2217-2219 (1992).	
	ED	BELLEAU, B., *et al.*, "Design and Activity of a Novel Class of Nucleoside Analogs Effective Against HIV-1," International Conference on AIDS, Montreal, Quebec, Canada, Jun. 4-9, 1989, p. 516.	
	EE	BELLEAU, B., *et al.*, Chem. Abst. 118(17):169533s (1993).	
	EF	BELLEAU, B., *et al.*, "A Novel Class of 1,3-Oxathiolane Nucleoside Analogs Having Potent Anti-HIV Activity," *Bioorgan. Med. Chem. Lett.*, 3(8):1723-1728 (1993)	
	EG	BIRON *et al.*, "Anti-HIV Activity of the Combination of Didanosine and Hydroxyurea in HIV-1 Infected Individuals," *J. AIDS and Human Retrovirology*, 10(1):36-40 (August 1995).	
	EH	BORTHWICK, *et al.*, "Synthesis and Enzymatic Resolution of Carbocyclic 2'-Ara-Fluoro-Guanosine: A Potent New Anti-Herpetic Agent," *J. Chem. Soc. Commun.*, 10:656-658 (1988).	
	EI	BOUFFARD, D.Y., *et al.*, "Kinetic Studies on 2'2'-Difluorodeoxycytidine(Gemcitabine) with Purified Human Deoxycytidine Kinase and Cytidine Deaminase," *Biochem. Pharmacol.*, 45(9):1857-1861 (1993).	
	EJ	CARTER *et al.*, "Activities of (-)-Carbovir and 3'-Azido-3'-Deoxythymidine Against Human Immunodeficiency Virus In Vitro," *Antimicrobial Agents and Chemotherapy*, 34(6):1297-1300 (1990).	
	EK	CHANG, C.-N., *et al.*, "Biochemical Pharmacology of (+) and (-)-2',3'-Dideoxy-3'-Thiacytidine as Anti-Hepatitis B Virus Agents", *J. Biol. Chem.*, 267(3):22414-22420 (1992).	
	EL	CHANG, Chien-Neng, *et al.*, "Deoxycytidine Deaminase-resistant Steroisomer Is the Active Form of (+/-)-2',3'-Dideoxy-3'-thiacytidine in the Inhibition of Hepatitis B Virus Replication," *J. Biological Chemistry*, 267(20):13938-13942 (1992).	
	EM	CHANG, Chungming, *et al.*, "Production of Hepatitis B Virus In Vitro by Transient Expression of Cloned HBV DNA in a Hepatoma Cell Line," *EMBO Journal*, 6(3):675-680 (1987).	
	EN	CHEN, Chin-Ho, *et al.*, "Delayed Cytotoxicity and Selective Loss of Mitochondrial DNA in Cells Treated with the Anti-Human Immunodeficiency Virus Compound 2',3'-Dideoxycytidine," *J. Biological Chemistry*, 264(20):11934-11937 (1989).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
				Application Number	**10/759,985**
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Filing Date**	**January 16, 2004**
				First Named Inventor	**Schinazi *et al.***
				Group Art Unit	**1623**
				Examiner Name	**Crane, Lawrence E.**
Sheet	6	of	14	Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	FA	CHOI *et al.*, "In Situ Complexation Directs the Stereochemistry of N-Glycosylation in the Synthesis of Oxathiolanyl and Dioxalanyl Nucleoside Analogues," *J. Am. Chem. Soc.*, 113:9377-9379 (1991).	
	FB	CHOI *et al.* "Synthesis, Anti-Human Immunodeficiency Virus, and Anti-Hepatitis B Virus Activity of Prymidine Oxathiolane Nucleosides," *Biorganic & Medicinal Chemistry Letters*, 3(4):693-696 (1993).	
	FC	CHOTTINER, E.G., "Cloning and Expression of Human Deocycytidine Kinase cDNA," *Proc. Natl. Acad. Sci. USA*, 88:1531-1535 (1991).	
	FD	CHU, C.K., *et al.*, "An Efficient Total Synthesis of 3'-Azido-3'-Deoxythiymidine (AZT) and 3'-Azido-2',3'-Dideoxyuridine (AZDDU, CS-87) from D-Mannitol," *Tetrahedron Lett.*, 29(42):5349-5352 (1988).	
	FE	CHU *et al.*, "Comparative Activity of 2',3'-Saturated and Unsaturated Pyrimidine and Purine Nucleosides Against Human Immunodeficiency Virus Type 1 in Peripheral Blood Mononuclear Cells," *Biochem. Pharm.*, 37(19):3543-3548 (1988).	
	FF	CHU *et al.*, "Structure-Activity Relationships of Pyrimidine Nucleosides as Antiviral Agents for Human Immunodeficiency Virus Type 1 in Peripheral Blood Mononuclear Cells," *J. Med. Chem.*, 32:612-617 (1989).	
	FG	CHU *et al.*, "Use of 2'-Fluoro-5-Methyl-.beta.-L-Arabinofuranosyluracil as a Novel Antiviral Agent for Hepatitis B Virus and Epstein-Barr Virus," *Antimicrob. Agents. Chemother.*, 39(4):979-981 (1995).	
	FH	COATES *et al.*, "The Separated Enantiomers of 2'-Deoxy-3'-thiacytidine(BCH-189) both Inhibit Human Immunodeficiency Virus Replication in vitro,"*Antimicrob. Agents Chemother.*,36(1):202-205 (January 1992).	
	FI	COE, P.L. *et al.*, "The synthesis of Difluoro and Trifluoro Analogs of Pyrimidine Deoxyribonucleosides: A Novel Approach Using Elemental Fluorine," *J. Fluorine Chem.*, 69(1):19-24 (1994).	
	FJ	CONDREAY *et al.*, "Evaluation of the Potent Anti-Hepatitis B Virus Agent (-) cis-5-Fluoro-1[2-(Hydroxymethyl)-1,3-Oxathiolan-5-yl] Cytosine in a Novel In Vivo Model," *Antimicrobial Agents and Chemotherapy*, 38(3):616-619 (1994).	
	FL	CRETTON, E., *et al.*, "Catabolism of 3'-Azido-3'-Deoxythymidine in Heptaocytes and Liver Microsomes, with Evidence of Formation of 3'-Amino-3'-Deoxythymidine, a Highly Toxic Catabolite for Human Bone Marrow Cells," *Molecular Pharmacology*, 39:258-266 (1991).	
	FM	CRETTON, E., *et al.*, "Pharmokinetics of 3'-Azido-3'-Dexoythymidine and its Catabolites and Interactions with Probenecid in Rhesus Monkeys," *Antimicrobial Agents and Chemotherapy*, 35(5):801-807 (1991).	
	FN	DAVISSON *et al.*, "Synthesis of Nucleotide 5'-Diphosphates from 5'-O-Tosyl Nucleosides," *J. Org. Chem.*, 52:1794-1801 (1987).	
	FO	Di BISCEGLIE, A.M., *et al.*, "Hepatocellular Carcinoma," NIH Conference, *Annals of Internal Medicine*; 108:390-401 (1988) (Summary of meeting held December 3, 1986).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	**10/759,985**
				Filing Date	**January 16, 2004**
				First Named Inventor	**Schinazi *et al.***
				Group Art Unit	**1623**
				Examiner Name	**Crane, Lawrence E.**
Sheet	7	of	14	Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	GA	DOONG, Shin-Lian, *et al.*, "Inhibition of the Replication of Hepatitis B Virus in vitro by 2',3'-Dideoxy-3'-Thiacytidine and Related Analogues," *Proc. Natl. Acad. Sci. USA*, 88:8495-8499 (October 1991).	
	GC	EMORY University, "Letter in re Opposition to EP 0 337 713," August 22, 1997;only p.1 supplied.	
	GD	FEORINO *et al.*, "Prevention of Activation of HIV-1 by Antiviral Agents in OM-10.1 Cells," *Antiviral Agents & Chemotherapy*, 4(1):55-63 (1993).	
	GE	FEORINO *et al.*, Chem. Abst. 118(19):182829n (May 10, 1993).	
	GF	FRICK *et al.*, "Pharmacokinetics, Oral Bioavailability, and Metabolic Disposition in Rats of (-) cis-5-Fluoro-1-[2-(Hydroxymethyl)-1, 3-Oxathiolan-5-yl] Cytosine, a Nucleoside Analog Active Against Human Immunodeficiency Virus and Hepatitis B Virus" *Antimicrobial Agents and Chemotherapy*, 37(11), 2285-2292 (November 1993).	
	GG	FRICK *et al.*, "Pharmacokinetics, Oral Bioavailability, and Metabolic Disposition in Mice and Cynomolgus Monkeys of (2'R,5'S)-cis-5-Fluoro-1-[2-(Hydroxymethyl)-1, 3-Oxathiolan-5-yl] Cytosine, an Agent Active Against Human Immunodeficiency Virus and Hepatitis B Virus," *Antimicrobial Agents and Chemotherapy*, 38(12) 2722-2729 (December 1994).	
	GH	FUJIMORI *et al.*, "A Convenient and Stereoselective of 2'-Deoxy-Beta-L-Ribonucleosides," *Nucleosides & Nucleotides*, 11(2-4):341-349 (1992).	
	GI	FURMAN *et al.*, "The Anti-Hepatitis B Virus Activities, Cytotoxicities, and Anabolic Profiles of the (-) and (+) Enantiomers of cis-5 Fluoro-1-[2-(Hydromethyl)-1,3-Oxthiolane-5-yl]Cytosine," *Antimicrobial Agents and Chemotherapy*, 36(12):2686-2692 (December 1992).	
	GJ	GANEM, D., *et al.*, "The Molecular Biology of the Hepatitis B Viruses," *Ann. Rev. Biochem.*, 56:651-693 (1987).	
	GK	GENU-DELLAC *et al.*, "3'-substituted thymine Alpha-L-nucleoside derivatives as potential antiviral agents: synthesis and biological evaluation," *Antiviral Chem. & Chemother.*, 2(2):83-92 (1991).	
	GL	GENU-DELLAC *et al.*, "Synthesis of New 2'-Deoxy-3'-Substituted-Alpha-L-Threo-Pentofuranonucleosides of Thymine as Potential Antiviral Agents," *Tetrahedron Letters*, 32(1):79-82 (January 1991).	
	GM	GOSSELIN, "Enantiomeric 2',3'-Deoxycytidine Derivatives are Potent Human Immunodeficiency Virus Inhibitors in Cell Cultures," *C. R. Acad. Sci. Paris Sci. Vie.*, 317:85-89 (January 1994).	
	GN	GU *et al.*, "Identification of a Mutation at Codon 65 in the IKKK Motif of Reverse Transcriptase That Encodes Human Immunodeficiency Virus Resistant to 2', 3'-Dideoxycytidine and 2', 3'-Dideoxy-3'-Thiacytidine," *Antimicrobial Agents and Chemotherapy*, 38(2), 275-281 (February 1994).	
	GO	GUMINA *et al.*, "Synthesis and Potent Anti-HIV Activity of L-3'-Fluoro-2'c3'-Unsaturated Cytidine," *Organic Letters*, 3(26):4177-4180 (2001); ACS Web publ. date: Dec. 4, 2001.	
	GP	HERDEWIJN *et al.*, "Resolution of Aristeromycin Enantiomers," *J. Med. Chem.*, 28:1385-1386 (1985).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet	8	of	14

Complete if Known	
Application Number	10/759,985
Filing Date	January 16, 2004
First Named Inventor	Schinazi *et al.*
Group Art Unit	1623
Examiner Name	Crane, Lawrence E.
Attorney Docket Number	18085.105326 EMU 133 CON 5

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	HA	HOARD and OTT, "Conversion of Mono-and Oligodeoxyribunucleotides to 5'-Triphosphates," *J. Am. Chem. Soc.*, 87(8):1785-1788 (April 20, 1965).	
	HB	HOLY, "[61] 2'-Deoxy-L-Uridine Total Synthesis of a Uracil 2'-Deoxynucleosides from a Sugar 2-Aminooxazoline Through a 2,2'-Anhydronucleoside Intermediate," *Nucl. Acid. Chem.*, 347-353 (Townsend and Tipson, Editors, John Wiley & Sons, New York, Chichester, Brisbane, Toronto).	
	HC	HOLY, "Nucleic Acid Components and Their Analogues. CLIII. Preparation of 2'-Deoxy-L-Ribunucleosides of the Pyrimidine Series," *Coll. Czechoslov. Chem. Commun.*, 37:4072-4087 (1972).	
	HD	HOONG *et al.*, "Enzyme-Mediated Enantioselective Preparation of Pure Enantiomers of the Antiviral Agent 2', 3'-Dideoxy-5-fluoro-3'-thiacytidine (FTC) and Related Compounds," *J. Organic Chem.*, 57(21), 5563-5565 (October 9, 1992).	
	HE	HOONG *et al.*, *Chem. Abst.* 117(19):192246p (1992).	
	HF	HORWITZ, J.P., *et al.*, "Nucleosides. VIII. Synthesis of 2',3'-Unsaturated Pyrimidine Nucleosides from Oxetane Derivatives," *Tetrahedron Letters*, 1964(38):2725-2727 (1964).	
	HG	HRONOWSKI, L.J.J., *et al.*, "Synthesis of Cyclopentane Analogs of 5-Fluorouracil Nucleosides," *Canadian J. Chem.*, 70(4):1162-1169 (1992).	
	HH	HUTCHINSON, "New approaches to the synthesis of antiviral nucleosides," *Trends in Biotech.*, 8(12):348-353 (December 1990).	
	HI	IMAI *et al.*, "Studies on Phosphorylation IV. Selective Phosphorylation of the Primary Hydroxyl Group in Nucleosides," *J. Org. Chem.*, 34(6):1547-1550 (June 1969).	
	HJ	IZUTA, Shunje, *et al.*, "Inhibitory Effects of Various 3'-Dexoyribonucleotides on DNA Polymerase.alpha.2-primage from Developing Cherry Salmon (*Oncorhynchus masou*) Testes," Nucleic Acids Symp. Ser. 16, 1985, 241-244, XP002086626.	
	HK	JANSEN *et al.*, "High Capacity In Vitro Assessment of Anti-Hepatitis B Virus Compound Selectivity by a Virion-Specific Polymerase Chain Reaction Assay," *Antimicrobial Agents and Chemotherapy*, 37(3), 441-447 (March 1993).	
	HL	JANSEN *et al.*, *Chem. Abst.* 118(19):182688r (1993).	
	HM	JEONG *et al.*, "Structure-Activity Relationships of .beta.-D-(2S, 5R)-and .alpha.-D-(2S,5R)-1,3-Oxathiolanyl Nucleosides as Potential Anti-HIV Agents," *J. Med. Chem.*, 36(18), 2627-2638 (1993).	
	HN	JEONG, L., *et al.*, "Asymmetric Synthesis and Biological Evaluation of .beta.-L-(2R,5S)-and .alpha.-L-(2R,5R)-1,3-Oxathiolane-Pyrimidine and -Purine Nucleosides and Potential Anti-HIV Agents," *J. Med. Chem.*, 36(2):181-195 (January 22, 1993).	
	HO	KASSIANIDES, C., *et al.*, "Inhibition of Duck Hepatitis B Virus Replication by 2',3'-Dideoxycytidine," *Gastroenterology*, 97(5):1275-1280 (July-December 1989).	
	HP	KHWAJA, T.A., *et al.*, "Fluorinated Pyrimidines," *J. Med. Chem.*, 10(6):1066-1070 (November 1967).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	**10/759,985**
				Filing Date	**January 16, 2004**
				First Named Inventor	**Schinazi *et al.***
				Group Art Unit	**1623**
				Examiner Name	**Crane, Lawrence E.**
Sheet	9	of	14	Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	IA	KIM *et al.*, "Asymmetric Synthesis of 1,3-Dioxolane-Pyrimidine Nucleosides and heir Anti-HIV Activity," *J. Med. Chem.*, 35(11):1987-1995 (1992).	
	IB	KIM *et al.*, "1,3-Dioxolanylpurine Nucleosides (2R,4R) and (2R,4S) with Selective Anti-HIV-1 Activity in Human Lymphocytes," *J. Med. Chem.*, 36(1):30-37 (1993).	
	IC	KIM, *et al.*, "L-.beta.-(2S,4S)-L-.alpha.-(2S,4R)-Dioxolanyl Nucleosides as Potential Anti-HIV Agents: Asymmetric Synthesis and Structure-Activity Relationships," *J. Med. Chem.*, 36(5):519-528 (March 5, 1993).	
	ID	KIM *et al.*, "Potent Anti-HIV and Anti-HBV Activities of (-)-L-.beta.-Dioxolane-C and (+)-L-.beta.-Dioxolane-T and Their Asymmetric Syntheses," *Tetrahedron Lett.*, 33(46):6899-6902 (1992).	
	IE	KOSHIDA *et al.*, "Structure-Activity Relationships of Fluorinated Nucleoside Analogs and Their Synergistic Effect in Combination with Phosphonoformate Against Human Immunodeficiency Virus Type I," *Antimicrobial Agents and Chemotherapy*, 33(12):2083-2088 (December, 1989).	
	IF	KRENITSKY *et al.*, "An Enzymic Synthesis of Purine D-Arabinonucleosdes," *Carbohydrate Research*, 97:139-146 (1981).	
	IG	KRENITSKY, T.A., *et al.*, "3'-Amino-2',3'-Dideoxyribunucleosides of Some Pyrimidines: Synthesis and Biological Activities," *J. Med. Chem.*, 26:891-895 (1983).	
	IH	KUKHANOVA *et al.*, "L-and D-Enantiomers of 2',3'-Dideoxycytidine 5'-Triphosphate Analogs as Substrates for Human DNA Polymerases," *J. Biol. Chem.*, 270(39):23056-23059 (September 29, 1995).	
	II	LEE, Bonita, *et al.*, "In Vitro and In Vivo Comparison of the Abilities of Purine and Pyrimidne 2',3'-Dideoxynucleosides To Inhibit Duck Hepadnavirus," *Antimicrobial Agents and Chemotherapy*, 33(3):336-339 (March 1989).	
	IJ	LIN *et al.*, "Antiviral Activity of 2'3'-Dideoxy-.beta.-L-5-fluorocytidine(.beta.-L-FddC) and 2',3'-Dideoxy-.beta.-L-cytidine (.beta.-L-ddC) Against Hepatitis B Virus and Human Immunodeficiency Virus Type 1 in Vitro," *Biochemical Pharmacology*, 47(2):171-174 (1994).	
	IK	LIN *et al.*, "Potent and Selective In Vitro Activity of 3'-Deoxythmindine-2-Ene-(3'-Deoxy-2',3'-Didehydrothymidine) Against Human Immunodeficiency Virus," *Biochem. Pharm.*, 36(17):2713-2718 (1987).	
	IL	LORI *et al.*, "Hydroxyurea as an Inhibitor of Human Immunodeficiency Virus-Type 1 Replication," *Science*, 266, 801-805 (4 Nov. 1994).	
	IM	MAHMOUDIAN *et al.*, "Enzymatic Production of Optically Pure (2'R-cis)-2'-deoxy-3'-thiacytidine (3TC, Lamivudine): A Potent Anti-HIV Agent," *Enzyme Microb. Technol.*, 15:749-755 (September 1993), published by the Glaxo Group Research.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	**10/759,985**
				Filing Date	**January 16, 2004**
				First Named Inventor	**Schinazi *et al.***
				Group Art Unit	**1623**
				Examiner Name	**Crane, Lawrence E.**
Sheet	**10**	of	**14**	Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	JA	MANSOUR *et al.*, "Anti-Human Immunodeficiency Virus and Anti-Hepatitis-B Virus Activities and Toxicities of the Enantiomers of 2'-Deoxy-3'-oxa-4'-thiocytidine and Their 5-Fluoro Analogues in Vitro," *J. Med. Chem.*, 38(1):1-4 (January 6,1995).	
	JB	MANSOUR *et al.*, "Structure-Activity Relationships Among a New Class of Antiviral Heterosubstituted 2', 3'-Dideoxynucleoside Analogues," *Nucleosides & Nucleotides*, 14(3-5):627-635 (1995).	
	JC	MANSOUR *et al.*, *Chem. Abst.* 118(21):213450p (May 24, 1993).	
	JD	MANSURI *et al.*, "Preparation of the Geometric Isomers of DDC, DDA, D4C, and D4T as Potential Anti-HIV Agents," *Bioorgan. and Med. Chem. Lett.*, 1(1):65-68 (1991).	
	JE	MATHEZ *et al.*, "Infectious Amplification of Wild-Type Human Immunodeficiency Virus from Patients' Lymphocytes and Modulation by Reverse Transcriptase Inhibitors In Vitro," *Antimicrobial Agents and Chemotherapy*, 37(10), 2206-2111 (October 1993).	
	JF	MATTHES, E., *et al.*, "Potent Inhibition of Hepatitis B Virus Production In Vitro by Modified Pyrimidine Nucleosides," *Antimicrobial Agents and Chemotherapy*, 34(10):1986-1990 (October 1990).	
	JG	MILLER, R.H., et al., "Common Evolutionary Origin of Hepatitis B Virus and Retroviruses," *Proc. Natl. Acad. Sci. USA*, 83:2531-2535 (April 1986).	
	JH	MITSUYA, H., *et al.*, "3'-Azido-3'-Deoxythymidine (BW A 509U): An Antiviral Agent that Inhibits the Infectivity and Cytopathic Effect of Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus In Vitro," *Proc. Natl. Acad. Sci., USA*, 82:7096-7100 (October 1985).	
	JI	MITSUYA, H., *et al.*, "Molecular Targets for AIDS Therapy," *Science*, 249:1533-1544 (September 28, 1990).	
	JJ	MITSUYA, H., *et al.*, "Rapid in Vitro Systems for Assessing Activity of Agents Against HTLV-III/LAV," AIDS: Modern Concepts and Therapeutic Challenges, S. Broder, Ed. Marcel-Dekker, New York (1987), pp. 303-333 (Chapter 18).	
	JK	NASSAL, M., *et al.*, "Hepatitis B Virus Replication," *Trends in Microbiology*, 1(6):221-228 (September 1993).	
	JL	NORBECK, D., *et al.*, "A New 2',3'-Dideoxynucleoside Prototype with In Vitro Activity Against HIV," *Tetrahedron Lett.*, 30(46):6263-6266 (1989).	
	JM	OKABE, M., *et al.*, "Synthesis of the Dideoxynucleosides, ddC and CNT from Glutamic Acid, Ribonolactone, and Pyrimidine Bases," *J. Org. Chem.*, 53(20):4780-4786 (1988).	
	JN	ONETTO *et al.*, "In Vitro Biochemical Tests to Evaluate the Response to Therapy of Acute Leukemia with Cytosine Arabinoside or 5-AZA-2'-Deoxycytidine," *Semin. Oncol.*, 14(12)Suppl. 1:231-237 (March	
	JO	PAFF *et al.*., "Intracellular Metabolism of (-)-and (+)-cis-5-Fluoro-1-[2-(Hydroxymethyl)-1,3-Oxathiolan-5-yl] Cytosine in HepG2 Derivative 2.2.15 (Subclone P5A) Cells," *Antimicrobial Agents and Chemotherapy*, 38(6) 1230-1238 (1994).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	**10/759,985**
				Filing Date	**January 16, 2004**
				First Named Inventor	**Schinazi *et al.***
				Group Art Unit	**1623**
				Examiner Name	**Crane, Lawrence E.**
Sheet	11	of	14	Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	KA	PAI *et al.*, "Inhibition of Hepatitis B Virus by a Novel L-Nucleoside, 2'-Fluoro-5-Methyl-.beta.-L-Arabinofuranosyl Uracil," *Antimicrob. Agents and Chemother.*, 40(2):380-386 (February 1996).	
	KB	PAINTER *et al.*, *Chem. Abst.* 117(23):226298z (December 7, 1992).	
	KC	PAINTER *et al.*, *Chem. Abst.* 118(6):45750r (1992).	
	KD	PARKER *et al.*, "Mechanism of Inhibition of Human Immunodeficiency Virus Type 1 Reverse Transcriptase and Human DNA Polymerase .alpha., .beta.0 and .gamma. by the 5'-Triphosphates of Carbovir. 3'-Azdo-3'-deoxythymidine. 2',3'-Dideoxyguanosine, and 3'-Deoxythymidine," *J. Biological Chem.*, 208(3), 1754-1762 (January 25, 1991).	
	KE	PHILPOTT *et al.*, "Evaluation of 9-(2-phophonylmethoxyethyl) adenine therapy for feline immunodeficiency virus using a quantitative polymerase chain reaction," *Vet. Immunol. and Immunopathol.*, 35:155-166 (1992).	
	KF	PIRKLE and POCHANSKY, "Chiral Stationary Phases for the Direct LC Separation of Enantiomers," Advances in Chromatography, Giddings, J.C., Grushka, E., Brown, P.R., eds.: Marcel Dekker: New York, 1987; vol. 27, Chap. 3, pp. 73-127.	
	KG	RICHMAN, D. D., "The Toxicity of Azidothymidine (AZT) in the Treatment of Patients with AIDS and AIDS-Related Complex," *N. Eng. J. Med.*, 317(4):192-197 (July 23, 1987).	
	KH	ROBINS *et al.*, "Purine Nucleosides. XXIX. The Synthesis of 2'-Deoxy-L-adenosine and 2'-Deoxy-L-guanosine and Their Alpha Anomers," *J. Org. Chem.*, 87:636-639 (March 1970).	
	KI	Van ROEY *et al.*, "Absolute Configuration of the Antiviral Agent (-)-cis-5-Fluoro-1-[2-(Hydroxymethyl)-1,3-Oxathiolan-5-yl] Cytosine," *Antiviral Agents and Chemotherapy*, 4(6), 369-375 (1993).	
	KJ	SATSUMABAYASHI, S. *et al.*, "The Synthesis of 1,3-Oxathiolane-5-one Derivatives," *Bull. Chem. Soc. Japan*, 45:913-915 (March 1972).	
	KK	SCHINAZI, R.F., *et al.*, "Antiviral Drug Resistance Mutations in Human Immunodeficiency Virus Type 1 Reverse Transcriptase Occur in Specific RNA Structural Regions," *Antimicrobial Agents and Chemotherapy*, 38(2):268-274 (February 1994).	
	KL	SCHINAZI, R.F., *et al.*, "Characterization of Human Immunodeficiency Viruses Resistant to Oxathiolane-Cytosine Nucleosides," *Antimicrobial Agents and Chemotherapy*, 37(4):875-881 (April 1993).	
	KM	SCHINAZI, R.F., *et al.*, "Pure Nucleoside Enantiomers of .beta.-2',3'-Dideoxycytidine Analogs Are Selective Inhibitors of Hepatitis B Virus In Vitro," *Antimicrobial Agents and Chemotherapy*, 38(9):2172-2174 (Septmeber 1994).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
				Application Number	**10/759,985**
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Filing Date**	**January 16, 2004**
				First Named Inventor	**Schinazi *et al.***
				Group Art Unit	**1623**
				Examiner Name	**Crane, Lawrence E.**
Sheet	12	of	14	Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	LA	SCHINAZI, R.F., *et al.*, "Activities of the Four Optical Isomers of 2',3'-Dideoxy-3'-Thiacytidine (BCH-189) against Human Immunodeficiency Virus Type 1 in Human Lymphocytes," *Antimicrobial Agents and Chemotherapy*, 36(3):672-676 (March 1992).	
	LB	SCHINAZI, R.F., *et al.*, "Insights into HIV Chemotherapy," *AIDS Research and Human Retroviruses* 8(6):963-990 (1992).	
	LC	SCHINAZI, R.F., *et al.*, "Pharmacokinetics and Metabolism of Racemic 2',3'-Dideoxy-5-Fluoro-3'-Thiacytidine in Rhesus Monkeys," *Antimicrobial Agents and Chemotherapy*, 36(11):2432-2438 (November 1992).	
	LD	SCHINAZI, R.F., *et al.*, "Selective Inhibition of Human Immunodeficiency Viruses by Racemates and Enantiomers of cis-5-Fluoro-1-[2-(Hydroxymethyl)-1,3-Oxathiolan-5-yl]Cytosine," *Antimicrobial Agents and Chemotherapy*, 36(11):2423-2431 (November 1992).	
	LE	SCHINAZI, R.F., *et al.*, "Substrate Specificity of Escherichia Coli Thymidine Phosphorylase for Pyrimidine Nucleoside with an Anti-Human Immunodefiency Virus Activity," *Biochemical Pharmacology*, 44(2):199-204 (1992).	
	LF	SECRIST *et al.*, "Resolution of Racemic Carbocyclic Analogues of Purine Nucleosides Through the Action of Adenosine Deaminase Antiviral Activity of the Carbocyclic 2'-Deoxyguanosine Enantiomers," *J. Med. Chem.*, 30:746-749 (1987).	
	LG	SELLS, M.A., *et al.*, "Production of Hepatitis B Virus Particles in Hep G2 Cells Transfected with Cloned Hepatits B Virus DNA," *Proc. Natl. Acad. Sci. USA*, 84:1005-1009 (February 1987).	
	LH	SHEWACH *et al.*, "Affinity of the Antiviral Enantiomers of Oxathiolane Cytosine Nucleosides for Human 2'-Deoxycytidine Kinase," *Biochem. Pharmacology*, 45(7), 1540-1543 (1993).	
	LI	SHIGETA, Shiro *et al.*, "Comparative Inhibitory Effects of Nucleoside Analogs on Different Clinical Isolates of Human Cytomegalovirus In Vitro," *J. Infect. Dis.*, 163(2):270-275 (February 1991), XP002086627.	
	LJ	SIDDIQUI, M.A., *et al.*, "Chemistry and Anti-HIV Properties of 2'-Fluoro-2'c3'-dideoxyarabinofuranosylpyrimidines," *J. Med. Chem.*, 35(12):2195-2201 (1992).	
	LK	SOUDEYNS, H., et al., "Anti-Human Immunodeficiency Virus Type 1 Activity and In Vitro Toxicity of 2'-Deoxy-3'-Thiacytidine (BCH-189), a Noval Heterocyclic Nucleoside Analog," *Antimicrobial Agents and Chemotherapy*, 35(7):1386-1390 (July 1991).	
	LL	SPADARI *et al.*, "L-Thymidine Is Phosphorylated by Herpes Simplex Virus Type 1 Thymidine Kinase and Inhibits Viral Growth," *J. Med. Chem.*, 35(22):4214-4220 (1992).	
	LM	STERZYCKI, R.Z., *et al.*, "Synthesis and anti-HIV activity of several 2'-fluoro-containing pyrimidine nucleosides," *J. Med. Chem.*, 33(8):2150-2157 (1990).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	**10/759,985**
				Filing Date	**January 16, 2004**
				First Named Inventor	**Schinazi *et al.***
				Group Art Unit	**1623**
				Examiner Name	**Crane, Lawrence E.**
Sheet	13	of	14	Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	MA	STORER, R., *et al.*, "The Resolution and Absolute Stereochemistry of the Enantiomeris of cis-1-[2-(Hydromethyl)]-1,3-Oxathiolan-5-yl)cytosine (BCH189): Equipotent Anti-HIV Agents," *Nucleosides & Nucleotides*, 12(2):225-236 (1993).	
	MB	SU *et al.*, "Nucleosides. 136. Synthesis and Antiviral Effects of Several 1-(2-Deoxy-2-Fluoro-B-D-Arabinofuranosyl)-5-Alyluracils. Some Structure-Activity Relationships," *J. Med. Chem.*, 29(1):151-154 (1986).	
	MC	SUREAU, C., *et al.*, "Production of Hepatitis B Virus by a Differential Human Hepatoma Cell Line after Transfection with Cloned Circular HBV DNA," *Cell*, 47:37-47 (1986).	
	MD	TANN *et al.*, "Fluorocarbohydrates in Synthesis. An Efficient Synthesis of 1-(2-Deoxy-2-Fluoro-B-D-Arabino-furanosyl)-5-iodouracil (B-FIAU) and 1-(2-Deoxy-2-Fluoro-B-D-Arabinofuranosyl)thymine (B-FMAU)," *J. Org. Chem.*, 50:3644-3647 (September 20, 1985).	
	ME	TISDALE *et al.*, "Rapid In Vitro Selection of Human Immunodeficiency Virus Type 1 Resistant to 3'-Thiacytidine Inhibitors Due to a Mutation in the YMDD Region of Reverse Transcriptase," *Proc. Nat. Acad. Sci. USA*, 90:5653-5656 (June 1993).	
	MF	TSURIMOTO, Toshiki, *et al.*, "Stable Expression and Replication of Hepatitis B Virus Genome in an Integrated State in a Human Hepatoma Cell Line Transfected with the Cloned Viral DNA," *Proc. Natl. Acad. Sci. USA*, 84:444-448 (January 1987).	
	MG	Van DRAANEN *et al.*, "Influence of Stereochemistry on Antiviral Activities and Resistance Profiles of Dideoxycytidine Nucleosides," *Antimicrobial Agents and Chemotherapy*, 38(4):868-871 (April 1994).	
	MH	VINCE *et al.*, "Resolution of Racemic Carbovir and Selective Inhibition of Human Immunodeficiency Virus by the (-)Enantiomer," *Biochem. and Biophys. Res. Comm.*, 168(3):912-915 (May 16, 1990).	
	MI	VOLK, Wesley, A., editor, "Hepatitis," Essentials of Medical Microbiology, J.B. Lippincott Company, (Philadelphia/Toronto), 2nd Ed., pp. 609-618 (1982).	
	MJ	VORBRUGGEN *et al.*, "Nucleoside Synthesis with Trimethylsilyl Triflate and Perchlorate as Catalysts," *Chem. Ber.*, 114:1234-1255 (1981).	
	MK	WILSON *et al.*, "The 5'-Triphosphates of the (1) and (+) Enantiomers of cis-5-Fluoro-1-[2-(Hydroxymethyl)-1,3-Oxathiolane-5-yl]Cytosine Equally Inhibit Human Immunodeficiency Virus Type 1 Reverse Transcriptase," *Antimicrob. Agents and Chemother.*, 37(8):1720-1722 (August 1993).	
	ML	WILSON, L.J., *et al.*, "A General Method for Controlling Glycosylation Stereochemistry in the Synthesis of 2'-Deoxyribose Nucleosides," *Tetrahedron Lett.*, 31(13):1815-1818 (1990).	
	MM	WILSON, L.J., *et al.*, "The Synthesis and Anti-HIV Activity of Pyrimidine Dioxlanyl Nucleosides," *Bioorganic & Medicinal Chemistry Letters*, 3(2):169-174 (1993).	
	MN	WORLD HEALTH ORGANIZATION, "Progress in the Control of Viral Hepatitis: Memorandum from a WHO Meeting," *Bulletin of the World Health Organization*, 66(4):443-455 (1988).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet	14	of	14

Complete if Known	
Application Number	**10/759,985**
Filing Date	**January 16, 2004**
First Named Inventor	**Schinazi *et al.***
Group Art Unit	**1623**
Examiner Name	**Crane, Lawrence E.**
Attorney Docket Number	**18085.105326 EMU 133 CON 5**

4742181_1.DOC

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T [6]
	NA	YOKOTA *et al.*, "Comparative Activities of Several Nucleoside Analogs Against Duck Hepatitis B Virus In Vitro," *Antimicrobial Agents and Chemotherapy*, 34(7):1326-1330 (July 1990).	
	NB	ZHU, Zhou, *et al.*, "Cellular Metabolism of 3'-Azido-2',3'-Dideoxyuridine with Formation of 5'-O-Diphophoshexase Derivatives by Previously Unrecognized Metabolic Pathways of 2'-Deoxyuridine Analogs," *Molecular Pharmacology*, 38::929-938 (1990).	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.